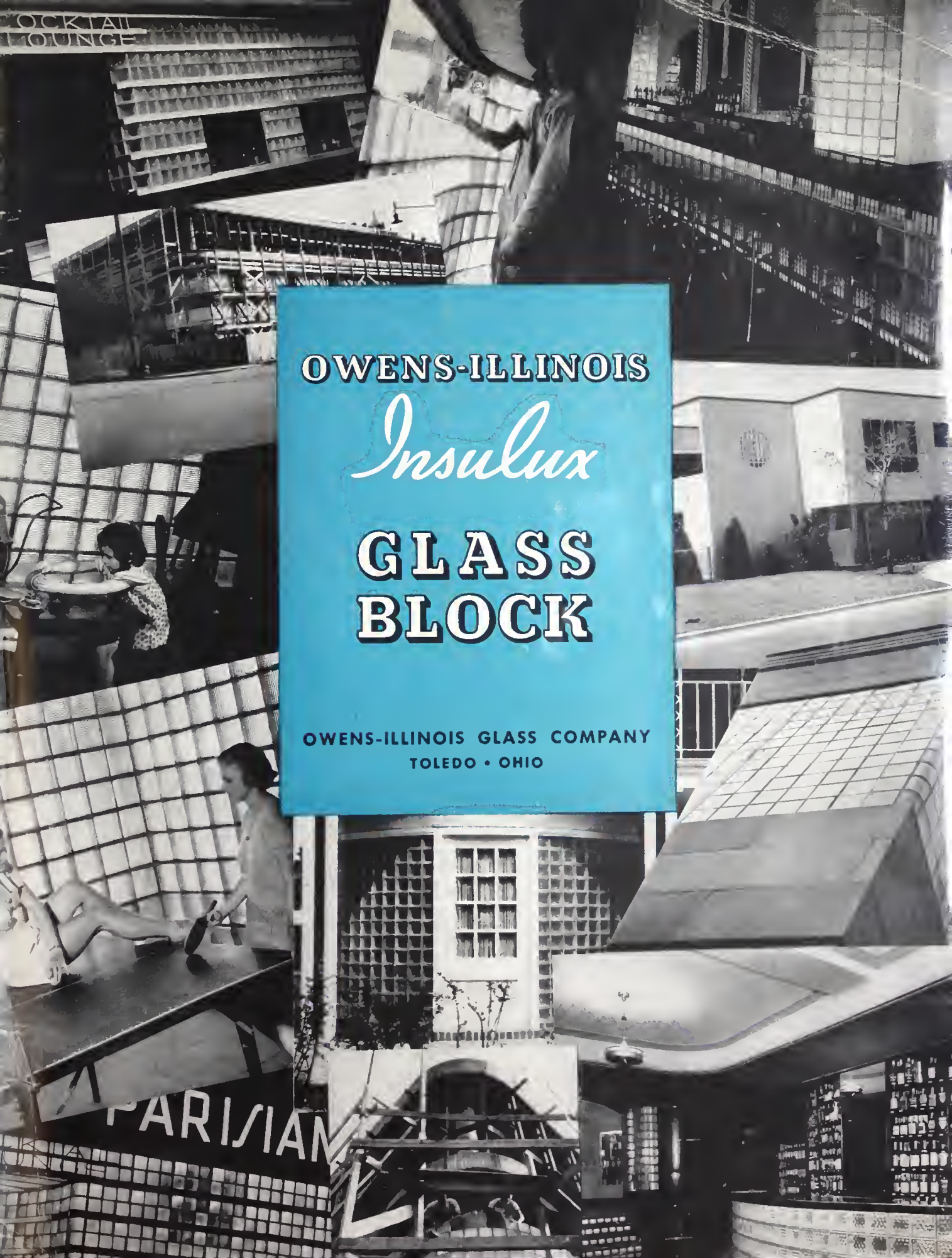
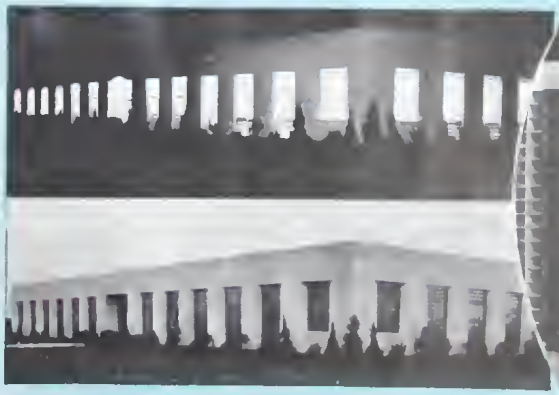

OWENS-ILLINOIS
Insulux
GLASS
BLOCK
OWENS-ILLINOIS GLASS COMPANY
TOLEDO • OHIO


Coca-Cola



OWENS-ILLINOIS INSULUX Glass Block

combines in **ONE** *modern building material the important advantages of many . . .*

● The following pages describe Insulux Glass Block —a product demanded by the functional and esthetic requirements of present day building. Owens-Illinois Glass Block combine properties and characteristics available in no other building material unit. The research and manufacturing facilities of the Owens-Illinois Glass Company have made possible economical production of Insulux Glass Block having low heat conductivity, great structural strength, and desirable light transmitting and diffusing properties. The exceptionally widespread acceptance and use of this material since its introduction have emphatically demonstrated its unusual value and versatility.

This catalog portrays the wide variety of practical and decorative installations, details of sound and economical construction methods as well as complete, practical test data.

THE INSTITUTION BACK OF THE PRODUCT

All of the resources and experience gained from sixty years of glass production and fabrication have gone into the design and manufacture of Insulux Glass Block. Always a leader in the manufacture of quality glass containers, the Owens-Illinois Glass Company has in recent years broadened the scope of its activities to include the production of glass products for other

fields. These activities include, in addition to Insulux, the manufacture of Red Top Insulating Wool (sold through the United States Gypsum Company), Dustop Fiberglas Air Filters, Hemingray Glass Insulators for communication lines and low voltage power circuits, and Fiberglas in other forms for many other industrial uses. The Owens-Illinois staff of research technicians, working in modern, well equipped laboratories, is constantly testing old and new products, seeking new and better products as well as new and more efficient ways of manufacturing them.

District Sales Offices of the Owens-Illinois Glass Company are strategically located in principal cities. Offices in the more important centers have special sales representatives thoroughly familiar with Insulux Glass Block. An inquiry at any one of the offices listed will receive prompt attention.

Insulux Glass Block are carried in stock by distributors and dealers in the most important trading centers. Here, too, a specially trained sales personnel is available for consultation. Architects who specify Insulux Glass Block will find that an ample supply of standard pattern blocks is available in dealers' stocks for normal requirements.

CHARACTERISTICS OF THE PRODUCT

Insulux Glass Block are manufactured in a modern and efficient plant at Muncie, Indiana. They are hollow, partially evacuated, water-clear units of pressed glass. The exclusive Owens-Illinois method of manufacture produces a block of uniform wall thickness and containing dry, rarefied air at a partial vacuum which gives the block its exceptional heat insulating properties. Another exclusive feature of Insulux Glass Block is the treatment given all mortar bearing surfaces. These surfaces are coated with a special gritty substance that is water, alkali, and acid resisting and which insures a high degree of bond between the mortar joints and the blocks.

USES FOR INSULUX GLASS BLOCK INCLUDE:

1. Continuous bands or panels of translucent, heat insulating walls for industrial buildings, department stores, office buildings, apartment houses, hotels, schools, hospitals, food plants, service stations and similar structures.

2. Corridor walls and partitions where borrowed light and sound insulating properties are desirable.

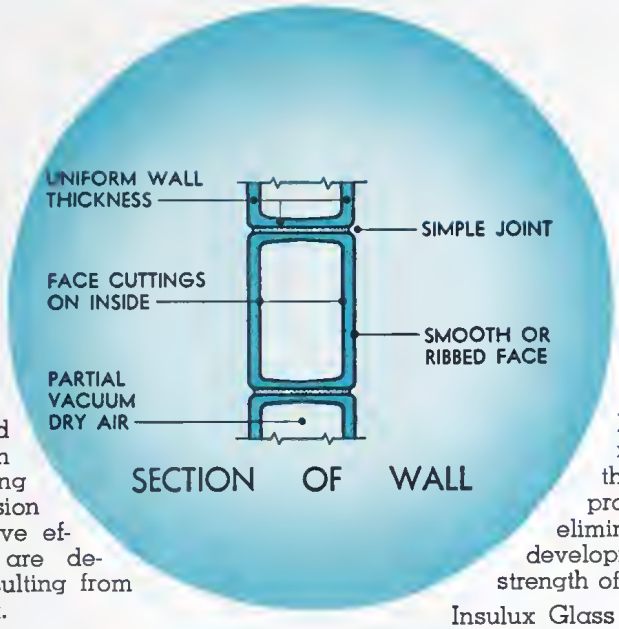
3. Translucent replacement panels in modernization and air conditioning improvements.

4. Store fronts and store front bulkheads—for decoration and cellar illumination and where special floodlighting effects (with or without color) are desired.

5. Interior decorative work in restaurants, bars, cafeterias, dress shops, commercial display rooms, and similar uses.

6. In residences where daylighting is desirable but vision obscured.

SPECIAL *features* AND ADVANTAGES



● Insulux Glass Block are available in standard sizes and standard face patterns as shown on pages 9 and 10. The various face patterns have been evolved through intensive research to obtain not only varying degrees of light transmission but a selection of decorative effects. The face patterns are designed to reduce glare resulting from spotty concentration of light.

Owens-Illinois Insulux Glass Block are translucent—permitting the transmission of light while effectively obscuring images. The prismatic patterns create a screen which improves the quality of the light transmitted, reduces glare, and increases the decorative appeal of the product by giving it a definite texture when laid up as a glass block wall.

BUILDING CODE APPROVAL—For their recommended uses, Insulux Glass Block have met with gratifying acceptance and approval by the building code authorities of many of our most discriminating municipalities and states.

LIGHT TRANSMISSION—The intensity of the light transmitted by Insulux is controlled by the face pattern selected. The amount of incident light transmitted by the various patterns ranges from 86.5% to 11.7%. Thus interior lighting may be controlled within a wide range of practical limits. The percentages of incident light transmitted by the various face patterns are given on pages 9 and 10 of this catalog.

LIGHT DIFFUSION—The light transmitted by Insulux Glass Blocks is diffused and is comparable to the light from a northerly exposed window or skylight. The reduction of glare and shadows in Insulux light promotes comfort, efficiency and quality workmanship and is particularly desirable for close work. The amount and character of the diffusion is, of course, dependent on the design of the prismatic pattern selected.

STRUCTURAL STRENGTH—As a result of the exclusive Owens-Illinois method of manufacture, Insulux Glass Block have a uniform shell thickness. This uniformity of shell thickness makes it possible to properly anneal the block to eliminate internal strain, thereby developing to the utmost the natural strength of the glass.

Insulux Glass Block are not offered as a load-bearing material yet they possess ample compressive strength to be self-supporting within the limits prescribed by the ratio of their thickness to any practical height. The ultimate strength developed by individual glass block units is 800 pounds per square inch. The ultimate strength of panels of Insulux Glass Block, laid up in accordance with specifications on page 12, is 400 pounds per square inch. Common practice in design of Insulux wall panels assumes a safe load value of 100 pounds per square inch.

Insulux Glass Block panels have successfully withstood,

SPECIAL *features* AND ADVANTAGES

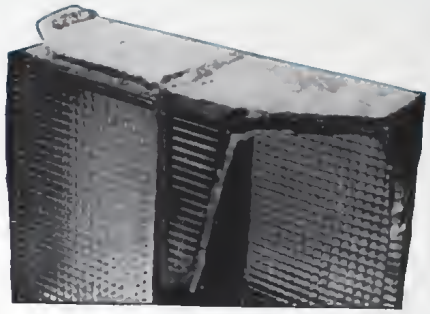
with no visual failure, air pressures up to 120 pounds per square foot. In tests made on Insulux panels measuring 7 ft. 3 in. wide by 8 ft. 7 in. high, loadings up to 80 pounds per square foot pressure indicated deflection of but 0.08 inches. This pressure corresponds to a wind velocity of about 163 miles per hour.

These results show that Insulux Glass Block walls will withstand, with a more than adequate factor of safety, the usual building code wind pressure allowance.

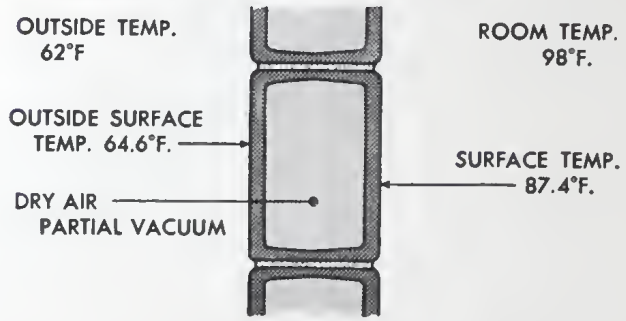
MORTAR BOND STRENGTH — Tests on Insulux Glass Block panels show an average strength of 43.9 pounds per square inch in tension and 111 pounds per square inch in shear at the mortar joints. These values are most favorable in comparison with the average mortar bond strength of comparative clay brick work. They are the result of application at the factory of a special coating to the mortar bond surfaces of the blocks. This surface treatment is available only on Insulux Glass Blocks.

THERMAL EXPANSION—The accepted coefficient of expansion for brick masonry is 0.0000030 and for broken stone concrete 0.0000060; the coefficient of expansion for Insulux Glass Block is 0.0000045, which is midway between the two types of masonry mentioned. This coefficient will vary slightly depending on the type of mortar used. Details providing for this differential in expansion between Insulux panels and abutting materials are set forth on page 12.

REMOVAL AND REPLACEMENT—A damaged glass block can be removed easily from the wall by chipping out or by drilling holes in the mortar joints in opposite corners and then inserting a keyhole saw through the joint and sawing out the block. The new block is then buttered with mortar, inserted in place and the job completed by pointing.



•The photograph illustrates the bond of the mortar and the special gritty surface coating with which the 4 mortar-bearing surfaces of the glass block are treated. This coating is water, alkali and acid resisting, insuring a high degree of bond between the mortar and the glass, and eliminating the likelihood of moisture penetration between the mortar joints and the blocks themselves.



THERMAL INSULATION—The high resistance of Insulux Glass Block to heat loss by conduction reduces the cost of air conditioning and artificial heating—both in initial and maintenance costs. As indicated before, in the manufacturing process the air in the hollow glass block is trapped at a very high temperature. When the block is cooled, it contains only thoroughly dry air at a partial vacuum. This rarefied dead air trapped in small volume forms an excellent heat insulator. Tests show Insulux Glass Block to be one of the best heat insulating building materials, in addition to its unique light transmitting property.

CONDUCTION — Average coefficients of heat transmission in B.t.u.'s per hour per square foot per degree F. difference in temperature are based on a wind velocity of 15 miles per hour. Coefficients for masonry walls marked (*) indicate that walls are furred and have ¾ inch plaster on metal lath.

3⅞ in. Insulux Glass Block Wall	0.29
Single glazed sash	1.13
Double glazed sash	0.45
Triple glazed sash	0.28
8 in. solid brick wall*	0.32
12 in. solid brick wall*	0.25
16 in. solid brick wall	0.28
Stuccoed 8 in. hollow tile wall*	0.27
Stuccoed 12 in. hollow tile wall*	0.22
16 in. concrete wall*	0.31
20 in. concrete wall	0.41
4 in. cut stone veneer on 10 in. concrete*	0.32

NOTE: See section on Solar Heat when computing cooling and ventilating requirements.

SPECIAL *features* AND ADVANTAGES

ELIMINATION OF CONDENSATION—Condensation forming on the inside of windows during cold weather causes deterioration of sash and adjacent materials. It is particularly prevalent in buildings where a high humidity is maintained, such as tobacco factories, silk mills, paper mills, and dairies. Insulux Glass Block, because of their high insulating value, will, under most conditions, eliminate this condensation and resulting deterioration—reducing maintenance costs to a minimum. At the conclusion of extensive tests, Purdue University reported that outside temperature necessary to produce condensation on the inside surface when the inside air is 70 degrees and a relative humidity of 40%—

Glass block ..... —16.4 degrees
Steel sash ..... 36.0 degrees

INFILTRATION — Air infiltration through cracks around openings represents a considerable heat loss in either air conditioning or heating. Where Insulux Translucent Glass Block are used this infiltration loss is reduced to a minimum because of the strength, permanence and depth of the solid mortar joint bond.

SOLAR HEAT—Insulux Glass Block, because of their variable values of controlled light transmission due to the variety of available face patterns, can be employed to materially reduce the solar heat transmission.

Purdue University laboratory authorities at the conclusion of extensive tests on the solar heat transmission of Insulux Block as compared with steel sash (testing equal areas of both materials) say: "The glass block No. 201 (Pattern No. 1) permitted 38.3% less solar heat to pass than did the steel sash when exposed continuously to the sun; 37.7% less when exposed to the east; 51.5% less when exposed to the south; and 48% less when exposed to the west."

Comparatively they further point out that a steel sash eliminates an average of but 20.4% of the solar heat.

As further evidence of the value of Insulux Glass Block walls in controlling solar heat transmission, we give below a table taken from Purdue tests made upon a representative Insulux Glass Block wall of high light transmission value, the design being our No. 317 (Pattern No. 17). These tests were made with the test wall exposed to the east, south and to the west. A series of tests for each exposure consisted of a test for transmission loss, a test with no window shade, a test with an inside window shade half drawn, and a test with an inside window shade full drawn.

Exposure	Degree of Shading	Solar Heat transmission B.t.u. per Sq. Ft. per Hr.		Percentage of No Shade Value	
		Maximum	Average	Max.	Ave.
East	0	52	33	100	100
East	½	35	22.5	67.3	68.3
East	Full	29	16.3	55.7	49.4
South	0	50	25.1	100	100
South	½	34	17.1	68	68
South	Full	28	14.4	56	57.3
West	0	57	30	100	100
West	½	39	21.1	68.4	70.5
West	Full	23	13	40.3	43.3

From the foregoing test data it will be readily observed that a material reduction can be made in computing the load upon air conditioning equipment where Insulux Blocks are used.

TRANSMISSION OF SOUND—Tests to determine the sound transmission through Insulux Glass Block panels were conducted in the Sound Chamber of the National Bureau of Standards, Washington, D. C. The average sound reduction factor over a range of nine frequencies was found to be 40.7. This factor is expressed in decibels and is known as the transmission loss and is conclusive proof of the fact that Insulux compares favorably with the usual type of plastered partition used in fireproof construction.

MOISTURE PENETRATION—Purdue University conducted a penetration test on an Insulux Block panel. The panel was constructed under standard specifications for the laying of Insulux, including the insertion of expanded metal bond ties. A head of 3 inches of water covered the panel, laid horizontally, for a period of one week, and no trace of moisture was found on the under side of the mortar joint at any time.

Other tests consisting of a spray of water were conducted on panels laid up with the usual mortar after they had been exposed to the weather for a period of a year. The spray was so designed as to simulate a driving rain, the water being directed at the panels at an angle of 45°. This test was run continuously for a period of 27 hours without the appearance of moisture on the reverse side of the panel.

CLEANLINESS—Insulux Glass Block walls are easy to clean. It is the natural characteristic of glass to be non-absorbent to liquids or odors. Several of the Insulux patterns have smooth exterior faces, the prismatic patterns being impressed only on the interior faces of the block. In other designs the faces have simple ribs running vertically on the exposed exterior and horizontally on the interior. The character of these surfaces minimizes the accumulation of surface dirt.

MAINTENANCE—Insulux Glass Block walls and panels require no maintenance other than occasional cleaning. The hard, brilliant surface of the block does not disintegrate or craze. It is not affected by weather and cannot be easily written upon, marked or defaced. Obviously, Insulux does not oxidize nor require painting.

Fire resistance

● Insulux Glass Block panels laid up in standard specification mortar and provided with specification bond ties have been subjected to a series of fire tests and fire and hose stream tests. All these tests were conducted under the supervision of Purdue University.

The panels tested were all rectangular but of varying dimensions in accordance with the requirements of the particular test specifications. The test furnaces were built either according to specifications of the Underwriters' Laboratories and the Bureau of Standards, Department of Commerce, or of the New York State Department of Labor. The former were 10 ft. 0 in. wide and 11 ft. 1½ in. high and the latter of typical window sizes.

Two time temperature curves were followed in the tests—that of the American Society of Testing Materials for non-bearing walls and partitions and that of the New York State Department of Labor for fireproof windows.

Insulux has successfully passed the New York State Labor Department requirements and is approved by the Industrial Commission as a fireproof window.

Approvals have been granted for the use of Insulux Glass Block in exterior walls, interior partitions, etc., by the Board of Buildings, New York City, the Building Department of the District of Columbia, and similar important bodies. These approvals are due in no small part to the excellent behavior of Insulux under rigid fire tests and fire and hose stream tests.

● **Official "Fireproof Window" test. Insulux panel after 30 minutes of fire.**

● **INSULUX PANEL—showing side not exposed to fire after a fire duration of 45 minutes, following the A.S.T.M. time temperature curve. At the time the photograph was taken, the temperature of the gas flame impinging directly on the Insulux Glass Block was 1600° F. This is the period of time at which fireproof window fire tests are terminated.**

Fire resistance

(Below)

● **INSULUX PANEL—showing unexposed side after a fire duration of 90 minutes, A.S.T.M. curve. Gas flame temperature 1825° F. This panel is 10 ft. wide and 11 ft. 1½ in. high in accordance with Underwriters' standard size. (Note—the black rectangles in the surface of the panel are the "pads" that hold the thermo-couples reading conducted heat.)**

(Left)

● **Official "Fireproof Window" test. Insulux panel after 47 minutes of fire, maximum temperature 1800° F.**

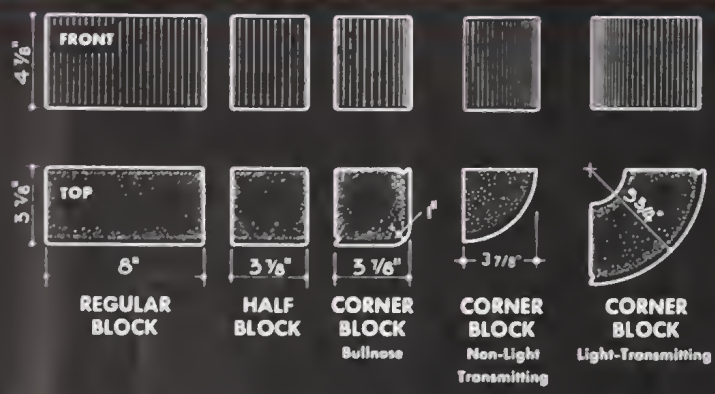
(Right)

● **Hose stream test. Hose stream through 1⅛ in. nozzle at 30 lbs. per sq. in. water pressure turned, at 14 ft. distance, directly on hot panel immediately after withdrawing from furnace.**

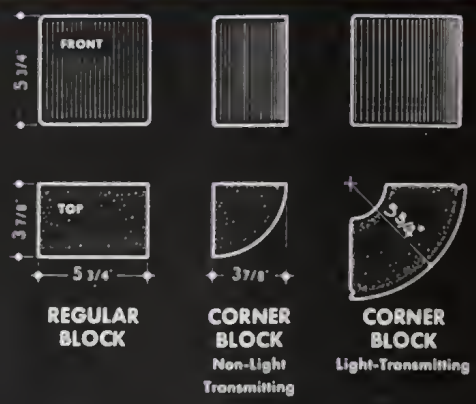
(Above)

● **Insulux panel being withdrawn from fire exposure.**

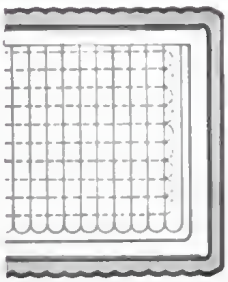
STANDARD SIZES



1 SERIES



200 SERIES

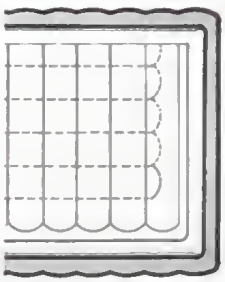


PATTERN NO. 1

Transmits 78.5% of the Light

Available in

No. [illegible] . . . 8" x 4 7/8" x 3 7/8"
No. 201 . . . . 5 3/4" x 5 3/4" x 3 7/8"
No. 301 . . . . 7 3/4" x 7 3/4" x 3 7/8"
No. 1 H (Half Block) . . . . 3 7/8" x 3 7/8" x 4 7/8"

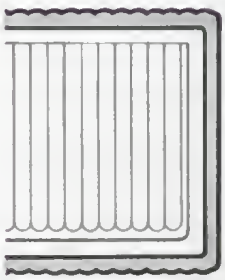


PATTERN NO. 2

Transmits 73.4% of the Light

Available in

No. 2 . . . . 8" x 4 7/8" x 3 7/8"
No. 202 . . . . 5 3/4" x 5 3/4" x 3 7/8"
No. 302 . . . . 7 3/4" x 7 3/4" x 3 7/8"
No. 402 (1" Ribs) . . . . 11 3/4" x 11 3/4" x 3 7/8"
No. 2 H (Half Block) . . . . . 3 7/8" x 3 7/8" x 4 7/8"

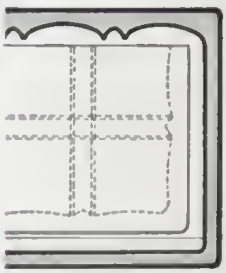


PATTERN NO. 11

Transmits 86.5% of the Light

Available in

No. 11 . . . . 8" x 4 7/8" x 3 7/8"
No. 211 . . . . 5 3/4" x 5 3/4" x 3 7/8"
No. 311 . . . . 7 3/4" x 7 3/4" x 3 7/8"
No. 11 H (Half Block) . . . . . 3 7/8" x 3 7/8" x 4 7/8"

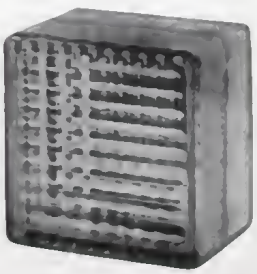


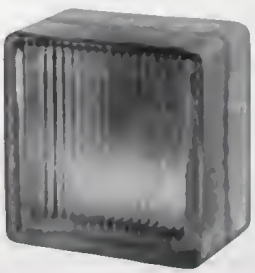
PATTERN NO. 17

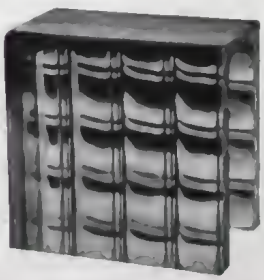
Transmits 84% of the Light

Available in

No. 317 . . . . . 7 3/4" x 7 3/4" x 3 7/8"
No. 300 R (Radial Block) . . 7 3/4" x 7 3/4" x 3 7/8"
No. 300 D (Corner Block) . .







CORNER BLOCKS

Three types of Corner Block are available for the No. 1 series—the Bullnose, the Radial Face Non-Light Transmitting and Radial Face Light Transmitting.

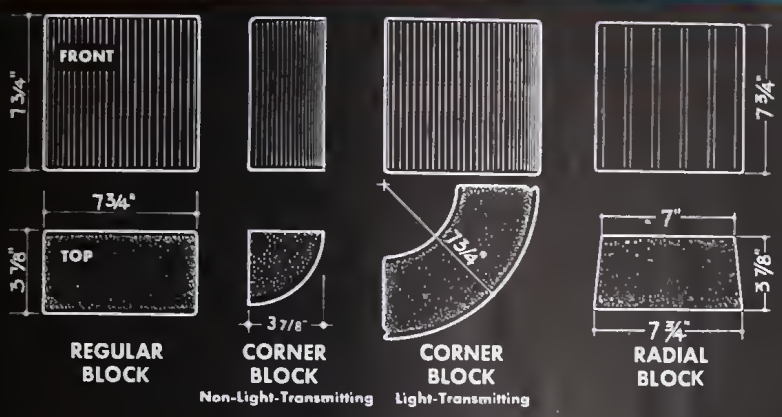
Two types of Corner Block are available for the No. 200 series and No. 300 series—the Radial Face Non-Light Transmitting and Radial Face Light Transmitting. Each of these types is made with two face patterns. For the No. 1 series and No. 200 series, the patterns consist of an exterior vertical rib ¼ in. wide designated by the letter A and an exterior vertical rib ½ in. wide designated by the letter B.

For the No. 300 series, the pattern consists of an exterior vertical rib ¼ in. wide designated by the letter A, and an exterior vertical rib 1 in. wide designated by the letter C.

In all patterns of Light Transmitting Blocks the interior ribs are the same size and horizontal.

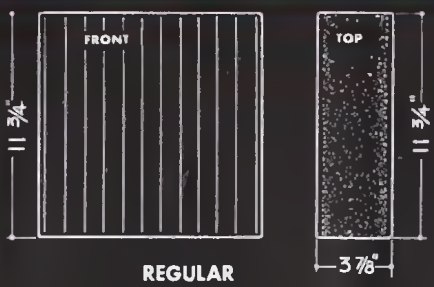
The No. 3 7 R block is a radial block designed to lay perfectly on a 3 ft. 6 in. radius. Through enlarging or diminishing the mortaring joints this block can be used to handle many varieties of radii within the range of 3 ft. to 6 ft.

AND PATTERNS



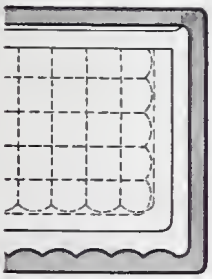
REGULAR BLOCK — CORNER BLOCK Non-Light-Transmitting — CORNER BLOCK Light-Transmitting — RADIAL BLOCK

300 SERIES



REGULAR BLOCK

400 SERIES

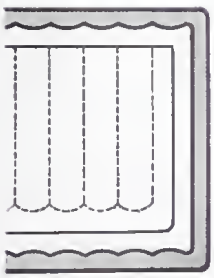


PATTERN NO. 16

Transmits 84.4% of the Light

Available in

No. 216 ..... 5¾" x 5¾" x 3⅞"
No. 316 ..... 7¾" x 7¾" x 3⅞"
No. 416 (1" Ribs) .... 11¾" x 11¾" x 3⅞"

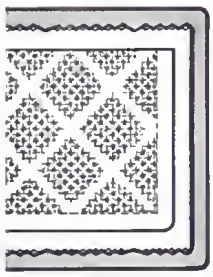


PATTERN NO. 7

Transmits 84.4% of the Light

Available in

No. 7 ..... 8" x 4⅞" x 3⅞"
No. 207 ..... 5¾" x 5¾" x 3⅞"
No. 307 ..... 7¾" x 7¾" x 3⅞"
No. 407 (1" Ribs) .... 11¾" x 11¾" x 3⅞"

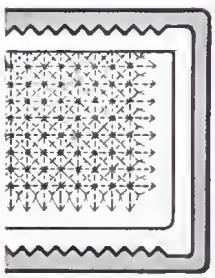


PATTERN NO. 3

Transmits 27.6% of the Light

Available in

No. 3 ..... 8" x 4⅞" x 3⅞"
No. 203 ..... 5¾" x 5¾" x 3⅞"



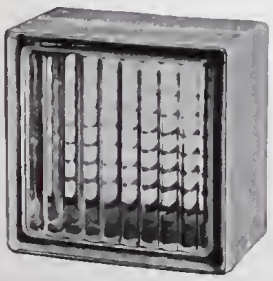
PATTERN NO. 5

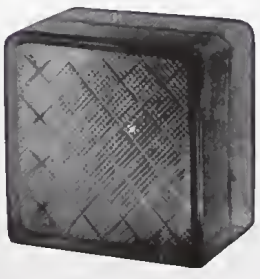
Transmits 11.7% of the Light

Available in

No. 5 ..... 8" x 4⅞" x 3⅞"
No. 205 ..... 5¾" x 5¾" x 3⅞"

Half blocks are available for use with oblong blocks (Series No. 1); consequently this series can be laid in running bond pattern.





NO. 1 SERIES:

1ABN	(Bullnose)
1BBN	(Bullnose)
1A	(Radial face—non-light giving)
1B	(Radial face—non-light giving)
1AL	(Radial face—light giving)
1BL	(Radial face—light giving)

NO. 200 SERIES:

200A	(Radial face—non-light giving)
200B	(Radial face—non-light giving)
200AL	(Radial face—light giving)
200BL	(Radial face—light giving)

NO. 300 SERIES:

300A	(Radial face—non-light giving)
300C	(Radial face—non-light giving)
300AL	(Radial face—light giving)
300CL	(Radial face—light giving)

DIMENSIONS OF *Insulux* GLASS BLOCK

DIMENSIONS OF INSULUX GLASS MASONRY

No. of Units	4⅞" x 8"				5¾" x 5¾"		7¾" x 7¾"		11¾" x 11¾"	
	Height		Width		Height or Width		Height or Width		Height or Width	
	1/4" joints	3/16" joints	1/4" joints	3/16" joints	1/4" joints	3/16" joints	1/4" joints	3/16" joints	1/4" joints	3/16" joints
1	5⅛"	5 1/16"	8¼"	8 3/16"	6"	5 15/16"	8"	7 15/16"	1'-0"	11 15/16"
2	10¼"	10⅛"	1'- 4½"	1'- 4⅜"	1'-0"	11⅞"	1'- 4"	1'- 3⅞"	2'-0"	1'- 11⅞"
3	1'- 3⅜"	1'- 3 3/16"	2'- 0¾"	2'- 0 3/16"	1'- 6"	1'- 5 13/16"	2'- 0"	1'- 11 13/16"	3'-0"	2'- 11 13/16"
4	1'- 8½"	1'- 8¼"	2'- 9"	2'- 8¾"	2'-0"	1'- 11¾"	2'- 8"	2'- 7¾"	4'-0"	3'- 11¾"
5	2'- 1⅝"	2'- 1 5/16"	3'- 5¼"	3'- 4 15/16"	2'- 6"	2'- 5 11/16"	3'- 4"	3'- 3 11/16"	5'-0"	4'- 11 11/16"
6	2'- 6¾"	2'- 6⅜"	4'- 1½"	4'- 1⅛"	3'-0"	2'- 11⅝"	4'-0"	3'- 11⅝"	6'-0"	5'- 11⅝"
7	2'- 11⅞"	2'- 11 7/16"	4'- 9¾"	4'- 9 13/16"	3'- 6"	3'- 5 9/16"	4'- 8"	4'- 7 13/16"	7'-0"	6'- 11 9/16"
8	3'- 5"	3'- 4½"	5'- 6"	5'- 5½"	4'-0"	3'- 11½"	5'- 4"	5'- 3½"	8'-0"	7'- 11½"
9	3'- 10⅛"	3'- 9 13/16"	6'- 2¼"	6'- 1 11/16"	4'- 6"	4'- 5 7/16"	6'-0"	5'- 11 13/16"	9'-0"	8'- 11 5/16"
10	4'- 3¼"	4'- 2⅝"	6'- 10½"	6'- 9⅞"	5'-0"	4'- 11⅜"	6'- 8"	6'- 7¾"	10'-0"	9'- 11⅜"
11	4'- 8⅜"	4'- 7 11/16"	7'- 6¾"	7'- 6 1/16"	5'- 6"	5'- 5 5/16"	7'- 4"	7'- 3 5/16"	11'-0"	10'- 11 5/16"
12	5'- 1½"	5'- 0¾"	8'- 3"	8'- 2¼"	6'-0"	5'- 11¼"	8'-0"	7'- 11¼"	12'-0"	11'- 11¼"
13	5'- 6⅝"	5'- 5 13/16"	8'- 11¼"	8'- 10 7/16"	6'- 6"	6'- 5 3/16"	8'- 8"	8'- 7 3/16"	13'-0"	12'- 11 3/16"
14	5'- 11¾"	5'- 10⅞"	9'- 7½"	9'- 6⅝"	7'-0"	6'- 11⅛"	9'- 4"	9'- 3⅛"	14'-0"	13'- 11⅛"
15	6'- 4⅞"	6'- 3 15/16"	10'- 3¾"	10'- 2 13/16"	7'- 6"	7'- 5 1/16"	10'-0"	9'- 11 1/16"	15'-0"	14'- 11 1/16"
16	6'- 10"	6'- 9"	11'- 0"	10'- 11"	8'-0"	7'- 11"	10'- 8"	10'- 7"	16'-0"	15'- 11"
17	7'- 3⅛"	7'- 2 1/16"	11'- 8¼"	11'- 7 1/16"	8'- 6"	8'- 4 15/16"	11'- 4"	11'- 2 15/16"	17'-0"	16'- 10 13/16"
18	7'- 8¼"	7'- 7⅛"	12'- 4½"	12'- 3⅜"	9'-0"	8'- 10⅞"	12'-0"	11'- 10⅞"	18'-0"	17'- 10⅞"
19	8'- 1⅜"	8'- 0 3/16"	13'- 0¾"	12'- 11 3/16"	9'- 6"	9'- 4 13/16"	12'- 8"	12'- 6 13/16"	19'-0"	18'- 10 13/16"
20	8'- 6½"	8'- 5¼"	13'- 9"	13'- 7¾"	10'-0"	9'- 10¾"	13'- 4"	13'- 2¾"	20'-0"	19'- 10¾"
21	8'- 11⅝"	8'- 10 5/16"	14'- 5¼"	14'- 3 15/16"	10'- 6"	10'- 4 11/16"	14'-0"	13'- 10 11/16"	21'-0"	20'- 10 11/16"
22	9'- 4¾"	9'- 3⅜"	15'- 1½"	15'- 0⅛"	11'-0"	10'- 10⅝"	14'- 8"	14'- 6⅝"	22'-0"	21'- 10⅝"
23	9'- 9⅞"	9'- 8 7/16"	15'- 9¾"	15'- 8 5/16"	11'- 6"	11'- 4 9/16"	15'- 4"	15'- 2 9/16"	23'-0"	22'- 10 9/16"
24	10'- 3"	10'- 1½"	16'- 6"	16'- 4½"	12'-0"	11'- 10½"	16'-0"	15'- 10½"	24'-0"	23'- 10½"
25	10'- 8⅛"	10'- 6 1/16"	17'- 2¼"	17'- 0 11/16"	12'- 6"	12'- 4 7/16"	16'- 8"	16'- 6 7/16"	25'-0"	24'- 10 7/16"
26	11'- 1¼"	10'- 11⅝"	17'- 10½"	17'- 8⅞"	13'-0"	12'- 10⅜"	17'- 4"	17'- 2⅜"	26'-0"	25'- 10⅜"
27	11'- 6⅜"	11'- 4 11/16"	18'- 6¾"	18'- 5 1/16"	13'- 6"	13'- 4 1/16"	18'-0"	17'- 10 1/16"	27'-0"	26'- 10 1/16"
28	11'- 11½"	11'- 9¾"	19'- 3"	19'- 1¼"	14'-0"	13'- 10¼"	18'- 8"	18'- 6¼"	28'-0"	27'- 10¼"
29	12'- 4⅝"	12'- 2 13/16"	19'- 11¼"	19'- 9 1/16"	14'- 6"	14'- 4 1/16"	19'- 4"	19'- 2 1/16"	29'-0"	28'- 10 1/16"
30	12'- 9¾"	12'- 7⅝"	20'- 7½"	20'- 5⅞"	15'-0"	14'- 10⅛"	20'-0"	19'- 10⅛"	30'-0"	29'- 10⅛"
31	13'- 2⅞"	13'- 0 15/16"	21'- 3¾"	21'- 1 13/16"	15'- 6"	15'- 4 1/16"	20'- 8"	20'- 6 1/16"	31'-0"	30'- 10 1/16"
32	13'- 8"	13'- 6"	22'- 0"	21'- 10"	16'-0"	15'- 10"	21'- 4"	21'- 2"	32'-0"	31'- 10"
33	14'- 1⅛"	13'- 11 1/16"	22'- 8¼"	22'- 6 1/16"	16'- 6"	16'- 3 13/16"	22'-0"	21'- 9 15/16"	33'-0"	32'- 9 13/16"
34	14'- 6¼"	14'- 4⅛"	23'- 4½"	23'- 2⅜"	17'-0"	16'- 9⅞"	22'- 8"	22'- 5⅞"	34'-0"	33'- 9⅞"

TABLE SHOWING NUMBER OF REINFORCING MEMBERS* IN PANELS OF VARIOUS SIZES

GREATEST DIMENSION OF PANEL IN FEET

LEAST DIMENSION OF PANEL IN FEET	6	8	10	12	14	16	18	20	22	24	26	30	40	50	60	70	80	90	100
6								1	1	1	1	1	1	2	2	2	3	3	4
8							1	1	1	1	1	1	2	2	3	3	4	4	5
10						1	1	1	1	1	1	2	2	3	4	4	5	6	6
12					1	1	1	1	1	1	2	2	3	4	4	5	6	7	8
14				1	1	1	1	1	1	2	2	2	3	4	5	6	7	8	9
16			1	1	1	1	1	1	2	2	2	2	4	5	6	7	8	9	10
18		1	1	1	1	1	1	2	2	2	2	3	4	6	7	8	9	11	12
20	1	1	1	1	1	1	2	2	2	2	3	4	5	6	8	9	11	12	14

When panels exceed 26'-0" in length provide for an additional 2 members for each 20'-0" in height or fraction thereof. Panels exceeding 20'-0" in height must be carried on shelf angles. See details.

*Size and design of member to be calculated.

The number of reinforcing members are to be increased or decreased dependent upon prevailing wind direction and velocity. The above table is based on an average velocity of 15 M.P.H.

BASIC SPECIFICATIONS

GLASS BLOCK—The glass block as shown on the drawings or called for in the specifications shall be hollow, partially evacuated, water-clear units of pressed glass construction as manufactured by the Owens-Illinois Glass Company. The face dimensions of the glass block shall be **(4⅞x8 in.), (5¾x5¾ in.), (7¾x7¾ in.), (11¾x11¾ in.)** as shown on the drawings. The over-all thickness of all block shall not be less than 3⅞ in. with a tolerance of + or — 1/16 of an inch. All walls of the blocks shall be not less than 3/16 of an inch thick. All mortar bearing surfaces of the block shall be flat with a tolerance of ⅛ of an inch, + or —, and shall be pre-coated with an alkali and moisture resistant grit bearing material of satisfactory adhesive and bonding qualities.

MORTAR—Materials used in making the mortar shall be measured by volume. For this purpose, 25 lbs. of quick lime or 40 lbs. of hydrated lime shall equal one cubic foot of Portland cement. All mortar shall be composed of one part Portland cement, one part lime and four parts sand. It shall be mixed in a water-tight box and hoed from end to end until thoroughly incorporated. Consistency shall be such that the hoe is clean when withdrawn and that the mortar, when tested by the use of a flow table, gives a flow number of about 90.

CEMENT—All cement used in mortar shall be waterproof Portland cement complying with the specifications of the American Society for Testing Materials.

LIME—All lime used for mortar may be either quick lime or hydrated lime. Quick lime shall be fresh, well burned, free from ashes, core, clinker, other foreign materials or air slaked particles. Quick lime shall be slaked in a water-tight box, using sufficient water to prevent burning, and to make a creamy putty. During the slaking it shall be thoroughly hoed to prevent burning. All slaked lime shall be aged for at least 7 days before using, and the resultant putty shall be sufficiently stiff to permit easy shoveling.

HYDRATED LIME—All hydrated lime shall be of standard brand, shall meet the standard specifications of the American Society for Testing Materials, and shall be delivered in the original packages of the manufacturer.

SAND—All sand used for mortar shall be clean, sharp with angular particles, free from vegetable matter, loam, clay, or other foreign matter. It shall comply with the standard specifications of the American Society for Testing Materials.

MASONRY MORTARS—Any masonry mortar of high strength and low volume change may be used instead of the Portland cement and lime mixture, if desired. Any standard brand of mortar, of which there are several, having a compressive strength at the end of 28 days of 800 lbs. per sq. in., according to A.S.T.M. specifications, will be satisfactory. Such masonry mortar shall be mixed and used according to the manufacturer's directions.

WATER—shall be clean, free from alkali or organic matter.

LAYING OF GLASS BLOCK—It is particularly important in the laying of glass block that both head and bed joints be completely filled with mortar. Compress and point joints on both surfaces with metal pointing tool after the mortar has reached its initial set. The finished surface of the joint should be smooth and non-porous. The final cleaning should not be done until after the mortar has reached its final set, in order to eliminate any possibility of injuring the green mortar joints. If blocks must be disturbed after laying, clean them and then relay. Blocks with exterior ribs are to be laid with ribs running vertically.

WALL TIES—Horizontal mortar joints are to be reinforced with 20 gauge expanded metal wall ties 2⅜ in. wide by 4 ft. 0 in. long galvanized after forming. Ties are to run continuously by lapping ends 6 in. and are to be located as follows:

No. 1 Series Block (4⅞x8x3⅞ in.)—every 4th course.
No. 200 Series Block (5¾x5¾x3⅞ in.)—every 4th course.
No. 300 Series Block (7¾x7¾x3⅞ in.)—every 3rd course.
No. 400 Series Block (11¾x11¾x3⅞ in.)—every course.

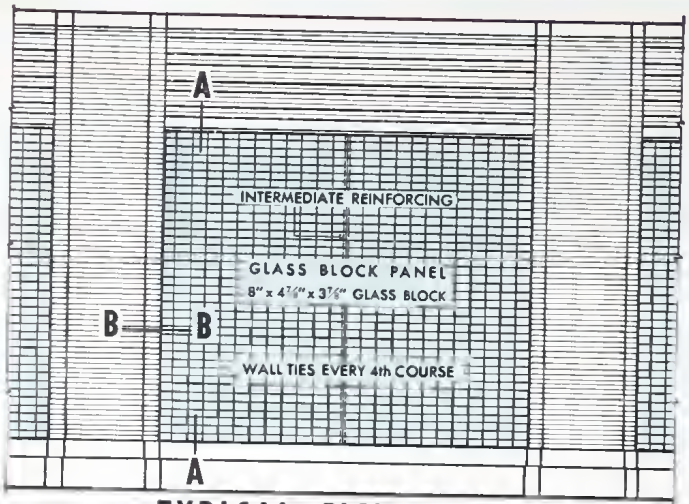
Upon approval of the architect an alternate wall tie of 20 gauge galvanized steel 1¾ in. wide by 6 ft. long perforated with rectangular slots 1⅜ in. on center may be substituted for the expanded metal type.

ANCHORAGE—All panels are to be securely anchored to abutting materials. Moderate sized panels may be anchored to adjoining masonry by inserting 20 gauge steel ties 1¾ in. wide by 2 ft. 6 in. long in horizontal glass block joints and extending them 16 in. into the masonry. These ties to be galvanized after forming. Large panels are to be anchored at the jambs and head by a mechanical means (such as a chase) as shown on the drawings.

INTERMEDIATE REINFORCING—Vertical or horizontal reinforcing members are to be provided for large glass block panels and are to be of size, shape and spacing as shown on the drawings. Glass block is to be securely anchored to these members.

EXPANSION JOINTS—Expansion joints are to be provided at the junction of glass block panels and other materials so that in no case will connecting joints be filled with mortar. These joints are to be provided at jambs and heads of all panels. The joint between top of glass block panel and lintel shall be of sufficient thickness to provide for lintel deflection. When panels are greater than 26 lineal ft., provide intermediate expansion joints. Expansion joints are to consist of a core of oakum, packed so as to be resilient, pointed on both sides with not less than ½ in. of a non-hardening waterproof calking material. Sills of panels are to be painted with asphalt emulsion before laying first mortar bed.

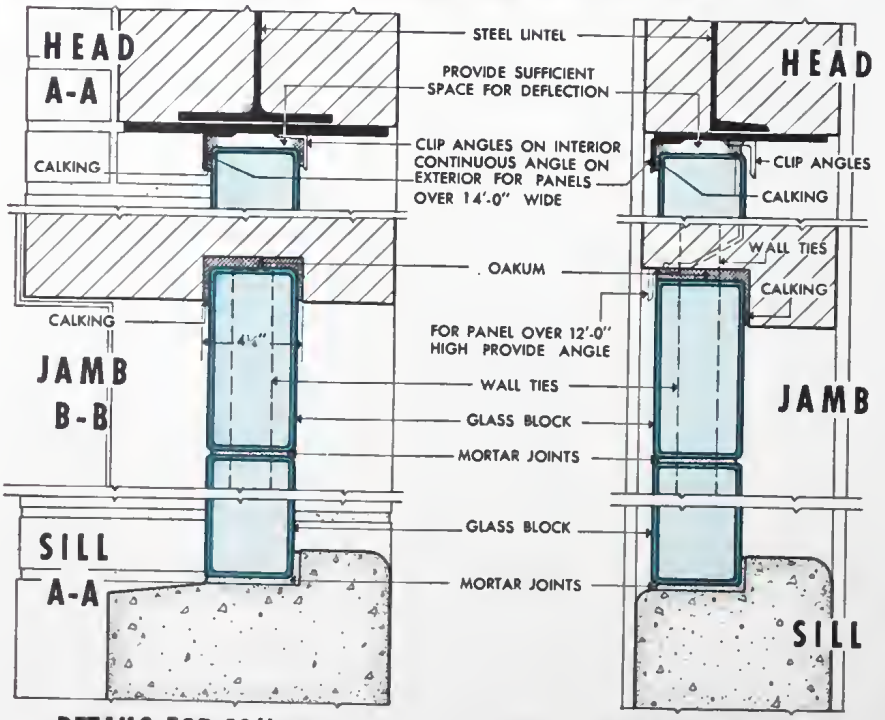
TYPICAL *Details* FOR



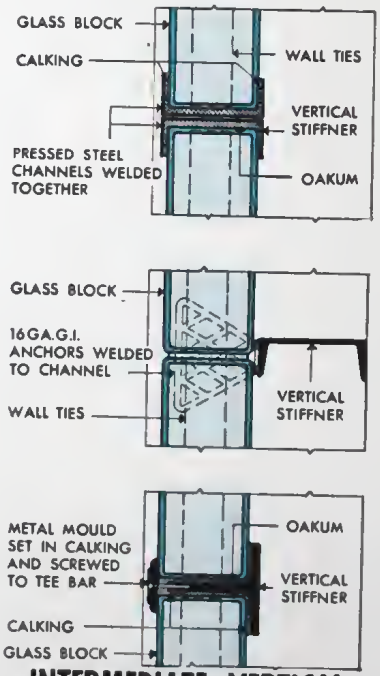
TYPICAL ELEVATION SCALE ⅜"=1'-0"

LARGE INSULUX GLASS BLOCK PANELS

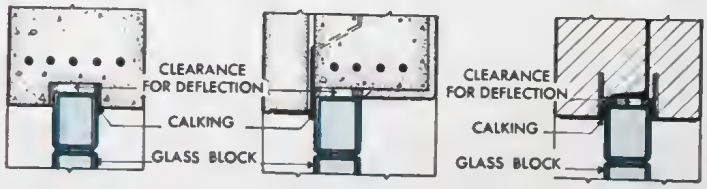
● The drawings on this page show jamb, head, sill, and vertical intermediate reinforcement details for large glass block panels. Alternate jamb and head sections indicate methods by which the block can be installed in buildings constructed of a variety of materials. Typical methods of vertical intermediate reinforcing are shown by details. Expansion joints are indicated on the details and described in the specifications.



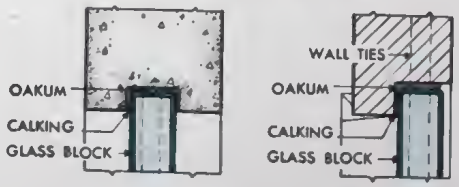
DETAILS FOR 12" WALL SCALE OF DETAILS 1½"=1'-0" DETAILS FOR 8" WALL



INTERMEDIATE VERTICAL REINFORCING
(SEE TABLE FOR SPACING)



CONCRETE WALL ALTERNATE HEAD STONE FACING SCALE ¾"=1'-0" SPLIT LINTEL SECTIONS

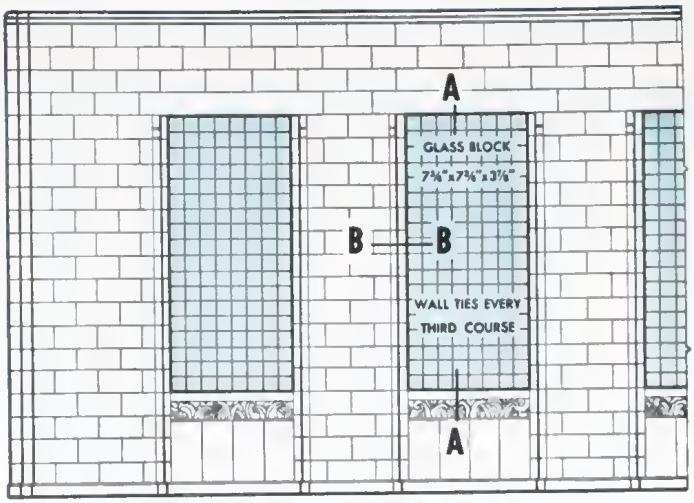


CONCRETE WALL ALTERNATE 8" BRICK WALL JAMBS SCALE ¾"=1'-0"

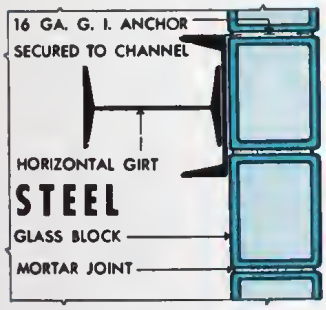
INSULUX GLASS BLOCK CONSTRUCTION IN EXTERIOR WALLS

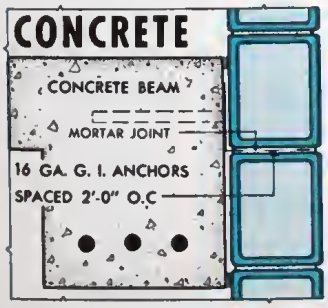
● The drawings on this page show small panels—horizontal reinforcement for large vertical panels—jamb connections for installations in remodeling work.

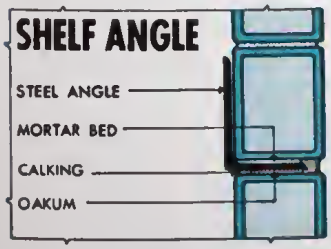
The elevation and sections A and B show typical methods of installing small and medium size Insulux panels. Large size panels should be anchored according to details on page 13.



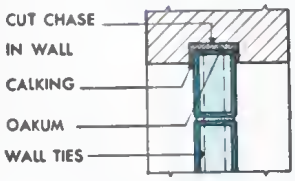
TYPICAL ELEVATION SCALE ⅛"-1'-0"

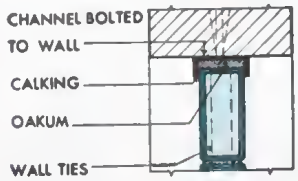


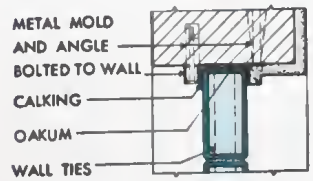


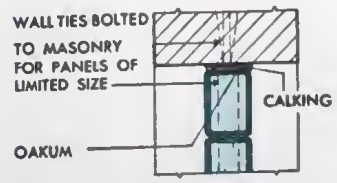


TYPICAL DETAILS OF HORIZONTAL REINFORCING
(SEE TABLE FOR SPACING)
SCALE 1½"-1'-0"

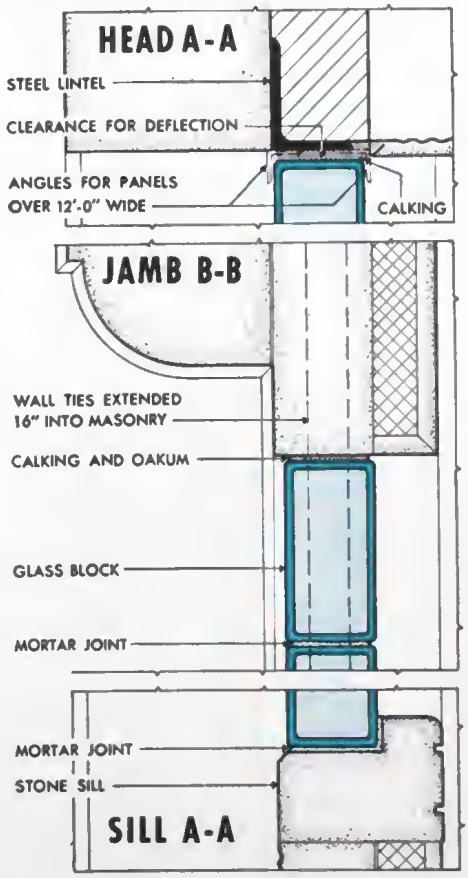






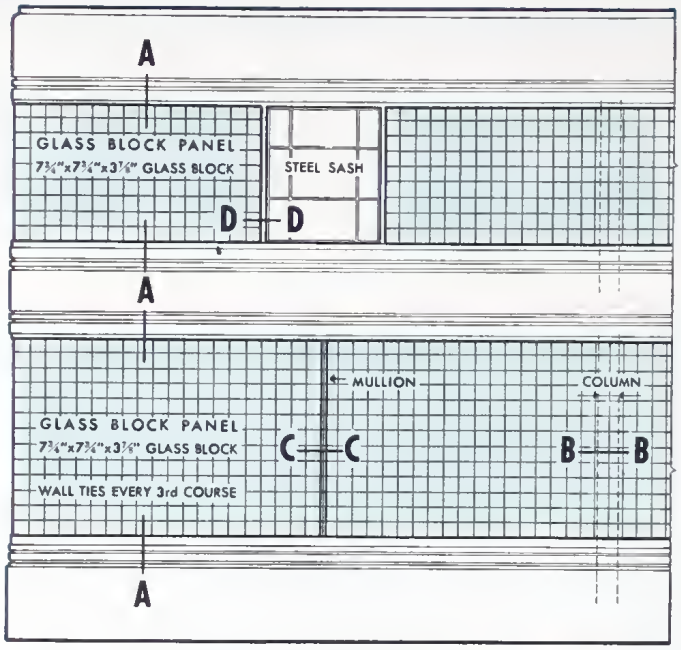


JAMB DETAILS FOR ALTERING EXISTING BUILDINGS
SCALE ¾"-1'-0"



TYPICAL DETAILS FOR SMALL PANELS
SCALE 1½"-1'-0"

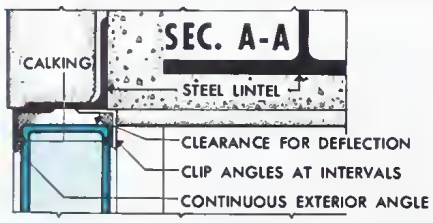
TYPICAL *Details* FOR

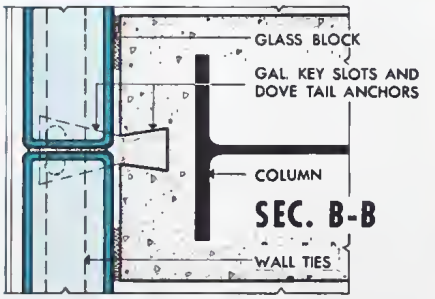


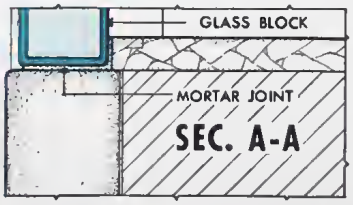
TYPICAL ELEVATION SCALE ⅜"-1'-0"

CONTINUOUS GLASS BLOCK PANELS

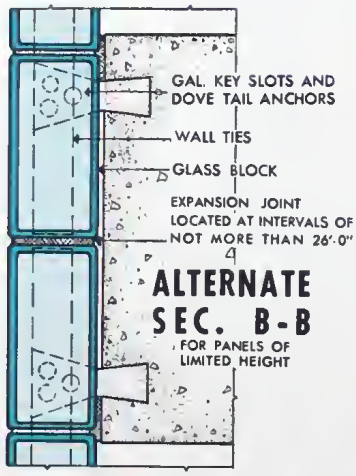
● These details show typical methods of installing Insulux Glass Block in continuous panels. This type of panel should be held securely at head and sill and reinforced vertically where needed in accordance with table of reinforcement on page 11. Expansion joints should be provided at intervals of not greater than 26 ft. 0 in.

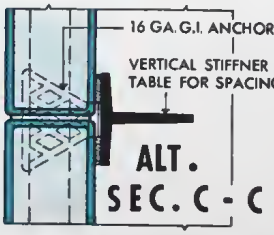




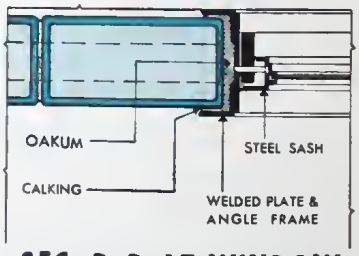


TYPICAL SECTIONS

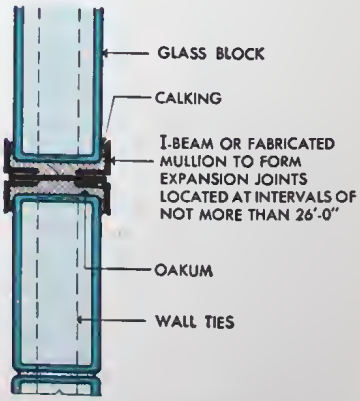




ALTERNATE SECTIONS



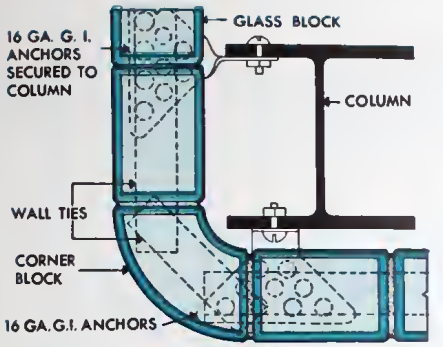
SEC. D-D AT WINDOW



MULLION SECTION C-C

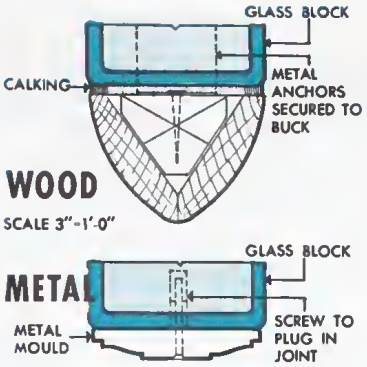
TYPICAL DETAILS OF CONTINUOUS GLASS BLOCK PANELS

SCALE 1½"-1'-0"

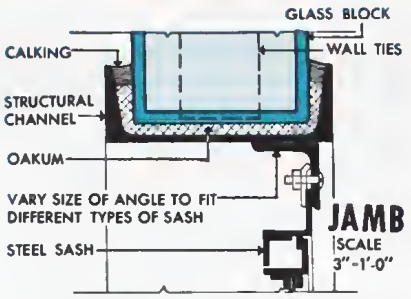


ANCHORING AT CORNER COLUMN

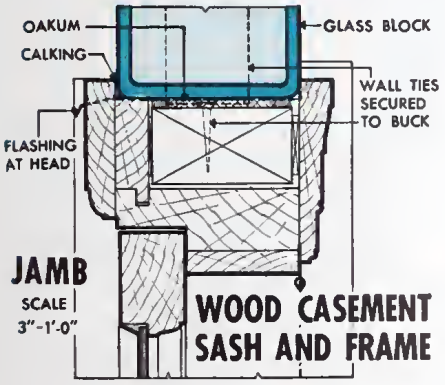
SCALE 1½"-1'-0"



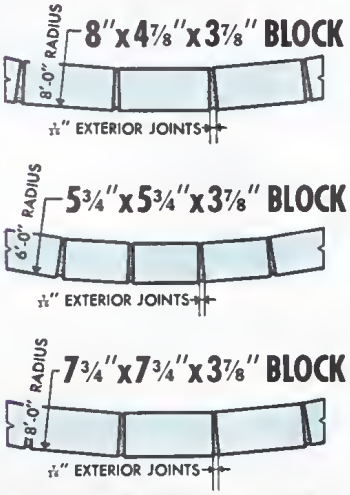
TRIM FOR END OF BLOCKS



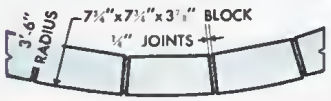
STRUCTURAL CHANNEL FRAME FACTORY TYPE SASH



WOOD CASEMENT SASH AND FRAME

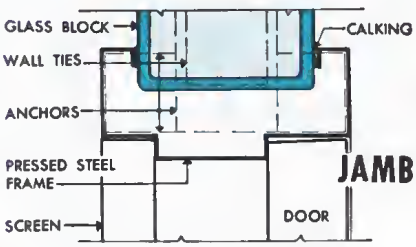


MINIMUM LAYING RADII FOR STANDARD BLOCK



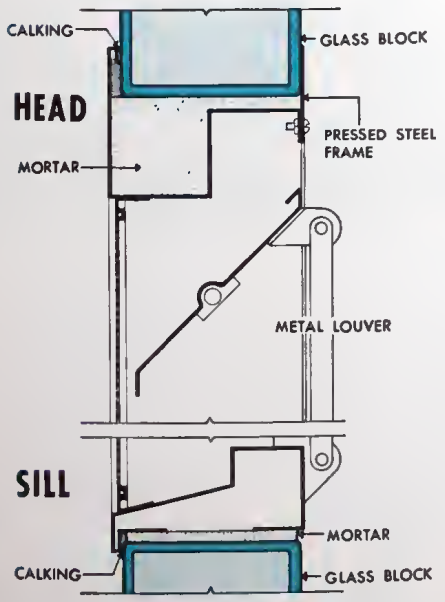
LAYING RADIUS FOR 317-R

VARY JOINTS FOR OTHER RADII



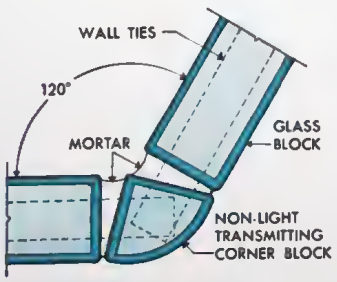
METAL EXTERIOR DOOR FRAME

SCALE 3"-1'-0"



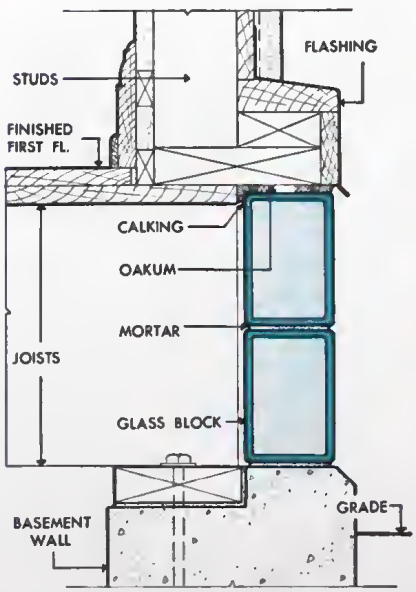
METAL LOUVER

SCALE 3"-1'-0"



120° CORNER

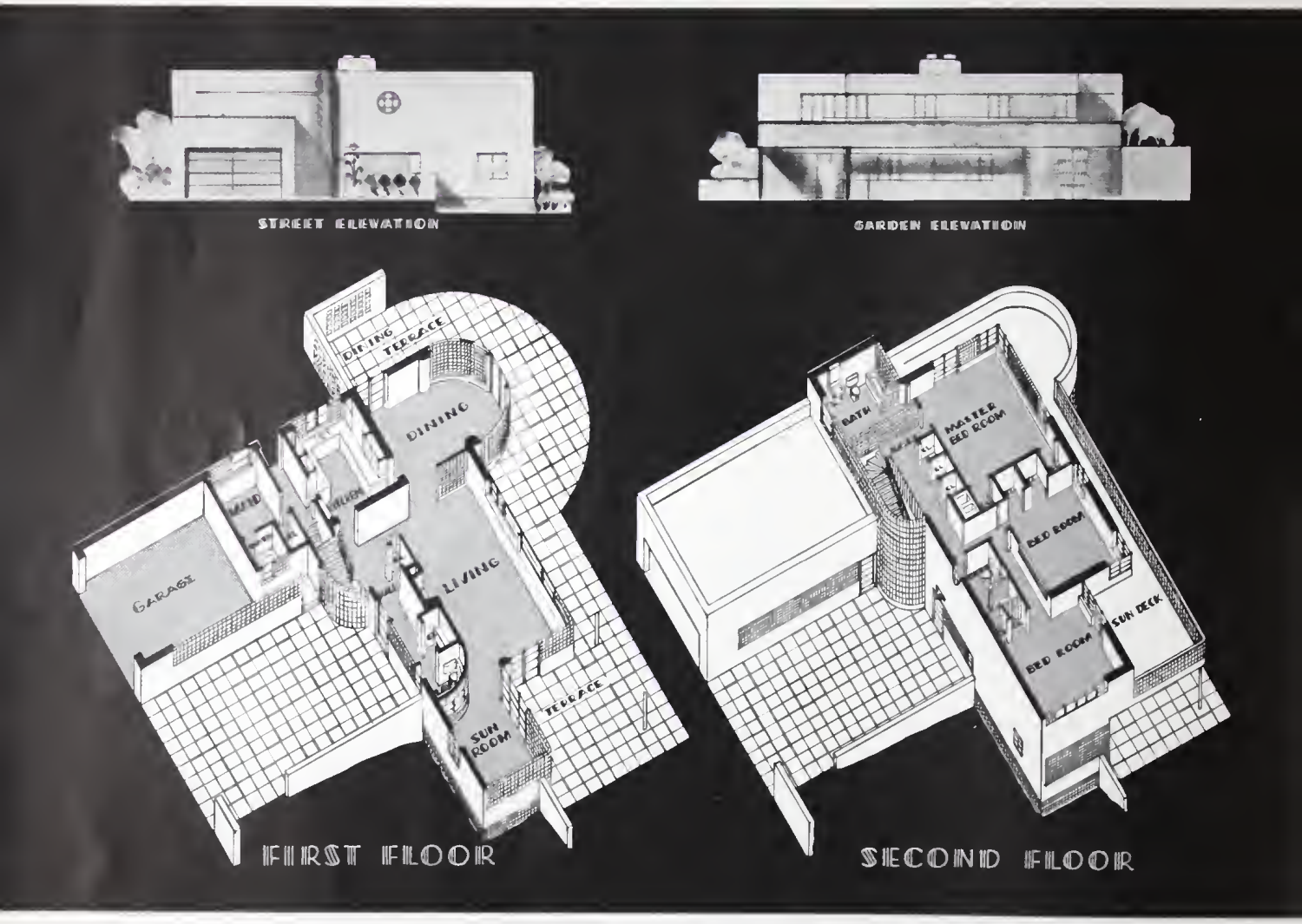
SCALE 1½"-1'-0"



CONTINUOUS BASEMENT PANEL—FRAME RESIDENCE

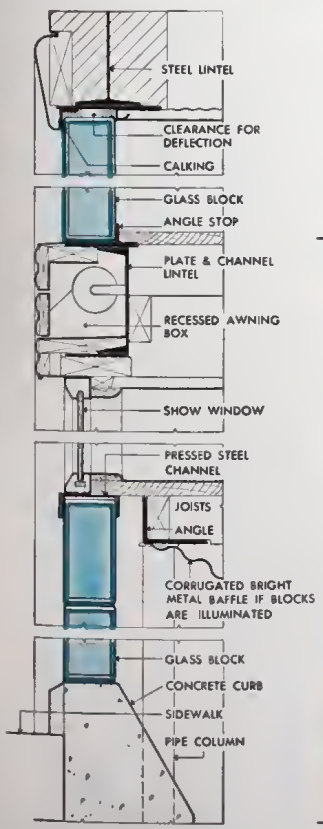
SCALE 1½"-1'-0"

Residential DETAIL

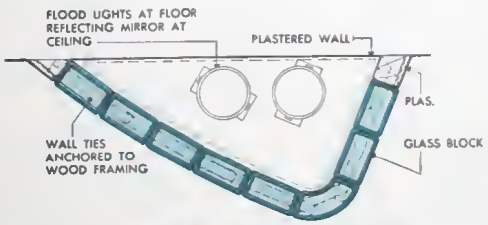


● The drawings of the modern home illustrated above clearly reveal many successful applications of Insulux Glass Block which fulfill present-day demands for utility and beauty. To every part of the house, from the garage to the secluded corners of wardrobe closets and the intimate privacy of bathrooms, Insulux brings new usefulness, new convenience, new comfort and new beauty.

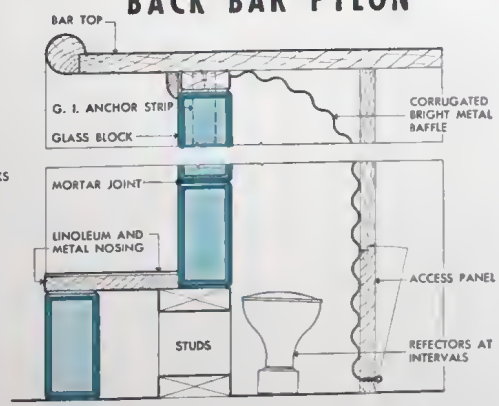
STORE FRONTS AND BARS



TYPICAL STORE FRONT DETAILS



BACK BAR PYLON



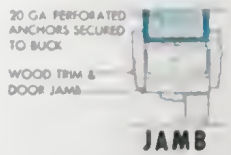
DETAIL OF TYPICAL BAR

● Both the functional and decorative properties of Insulux Glass Block have been used to full advantage in the interesting and arresting application illustrated on this page. During daylight hours the store front admits light to the basement in predetermined intensity and the bars radiate cleanliness and welcome. At night, colored floodlighting turns the store front into a compelling advertisement; and may be used either to give the bars a soft satin-like glow or to make them exciting riots of color.

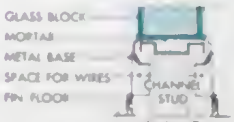
INTERIOR PARTITIONS

● Because they admit light, reduce sound transmission and retard heat flow, Insulux Glass Block are ideally suitable for the construction of interior partitions. Their decorative qualities make them equally adaptable for partitions in office buildings, public buildings or homes. In industrial and loft buildings, they are ideal for dividing spaces without the loss of light. And because of their high sanitary property and lack of porosity, Insulux Glass Block squarely meet the requirements of shower enclosures and hospital and food factory construction.

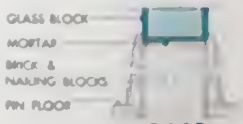
JAMB



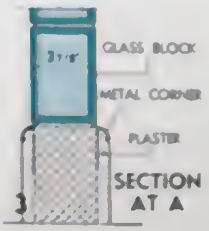
JAMB



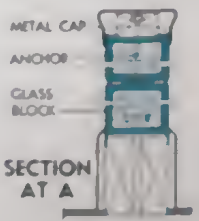
BASE
METAL TRIM
SHOWING METHOD OF CARRYING WIRING



BASE
WOOD TRIM



SECTION
AT A



SECTION
AT A

Printed in U S A

OTHER PRODUCTS

Manufactured by the
Industrial and Structural Products Division
of the

OWENS-ILLINOIS GLASS COMPANY

●

DUST-STOP AIR FILTERS
FIBERGLAS INSULATING CEMENT
FIBERGLAS PIPE INSULATION
FIBERGLAS INSULATING BLANKETS
HEMINGRAY ELECTRICAL INSULATORS
and
RED TOP INSULATING WOOL
which is distributed by United States Gypsum Company